L3cture app

As usual, if you have access to the L3cture app, connect to Eduroam wifi with your standard university username and password and start it.

If you haven't got a smartphone, or don't want to take part, that's fine.

If you receive any error messages using the app, taking a screenshot and emailing it to me would be very helpful!

Creating slides

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The package we will use is called *Beamer*.

About Beamer

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To write the slides you use LaTeX commands as normal. The document is split into sections and subsections, and each of these sections is built up of *frames*, using the `\begin{frame}` and `\end{frame}` commands. Each frame displays as a new slide.

For example, the commands

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\begin{frame}
Here is a frame. It contains text and
formulas, such as
$$e^{i\pi}=-1.$$
\end {frame}
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You may want to expand frames

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\begin{frame}
In case you want to, \pause you can
pause slides and \pause
\begin{itemize}
\item uncover \pause
\item listed items \pause
\item one by one.
\end{itemize}
\end {frame}
```

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The page size of the PDF is in the 4:3 ratio. This can be changed to 16:9 if necessary for widescreen monitors or projectors.

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Beamer themes

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This is the default theme

Sam Marsh

Marcus Fabius Quintilian (AD35–AD100)

We should not write so that it is possible for our readers to understand us, but so that it is impossible for them to misunderstand us.

De Institutione Oratoria, Book VIII, 2, 24

Mathematical presentation

In this part of MAS115, we will look at how to communicate mathematics well.

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We will also look at how to create typeset mathematical documents and create webpages with mathematical content.

By the time we're done, you should be

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- better at expressing your ideas;
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- clearer in your approach to presentation;

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- better at expressing your ideas;
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- able to create professional looking mathematical reports.

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which shows how the themes look after changing their colour profiles.

The style of the slides can be modified even further with advanced commands, although to do so is not very easy.

Writing presentations

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- using bullet points;
- using simple sentences;
- using a large font;
- not having too much information on each slide.

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Plan to say more than is written on the slide. Every sentence written down should be elaborated on. There is nothing worse than someone reading word-for-word what appears on a screen!

Script or no script?

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Later in this course you will give a presentation to a small number of fellow students as part of a group project. We understand people want to be well prepared, but please avoid planning your script down to the last word.

About Computer Lab 6

In Computer Lab 6 we'll look at the basics of Beamer.

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In Computer Lab 6 we'll look at the basics of Beamer. By the end you should be able to create high-quality mathematical slides.

Semester 1 mini-project

An interrupted game

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Two players, A and B, each put £5 into a pot as prize money for a game. A fair coin will be tossed repeatedly. Each time it lands on heads, Player A wins a point; each time it lands on tails, Player B wins a point. The winner is the first player to get to a specified total, T, of points.

Unfortunately the game has to be abandoned before the end,

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Background

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The basic task

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Your program should ask the user to specify the winning total, T, and the scores α and β of the two players at the point the game was abandoned. The output should be a statement of how much money each player should receive. You should make sure your script is producing sensible results by testing it with several different scenarios that you can check by hand.

L3cture question

Extending the project

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- modify the code to deal with 3 or more players;

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- modify the code to deal with 3 or more players;
- extend in any other way you can think of.

Do as much as you can! What you choose is up to you.

The project write-up

Write up your project, including descriptions how your Python code works, in a LaTeX report of around 3 pages, and strictly no more than 4, using the preamble template on the course webpage

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Do not include your name.

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Your write-up must not be longer than 4 pages; if this is problematic, contact me.

You will submit the project (PDF, plus LaTeX and Python code) online via the course website.

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Note. The peer assessment session in the standard MAS115 lecture slot on Thursday 1 December (Week 10). Please make sure that you will attend.

Late work and plagiarism

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Final comments

Here are some final thoughts to help you with the project.

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- We hope this mini-project will help you to consolidate what you have learnt so far and that you enjoy doing it.

Have a nice (but productive) reading week!